



## MANCHESTER HEALTH DEPARTMENT MONTHLY REPORT SUMMARY, MARCH 2006

### Tuberculosis Prevention & Control Program

#### **PROGRAM LISTING:**

***Arbovirus  
Surveillance &  
Control***

***Chronic Disease  
Prevention***

***Communicable  
Disease Control***

***Community  
Epidemiology***

***Dental Health***

***Environmental  
Planning and  
Pollution Control***

***Food Protection***

***HIV Prevention***

***Homeless Health  
Care Project***

***Immunizations***

***Institutional  
Inspections***

***Lead Poisoning  
Prevention***

***Public Health  
Investigations***

***Public Health  
Preparedness***

***Refugee Health***

***School Health***

***Sexually  
Transmitted  
Disease Control***

***Tuberculosis  
Control***

***Water Quality***

***Youth Health  
Promotion***

#### **Disease Summary:**

Tuberculosis (TB) is an infectious disease caused by a slow growing bacterium. It is most commonly associated with a lung infection that killed one in 7 adults in the U.S. and Europe in the late 19<sup>th</sup> century, and continues to cause more deaths worldwide than any other infectious disease. If a person has pulmonary TB, he or she may spread the disease by coughing, singing, or talking. TB may also infect any part of the body, the brain, the bones, the kidneys, etc. In most people, the primary infection with the disease does not lead to overt illness or death. A healthy person's immune system can usually temporarily contain the disease, leading to what is known as latent TB infection or LTBI. Over a lifetime, the average person with latent TB infection has a 5 to 10% risk of developing more aggressive, active TB disease. Many factors mitigate the outcome of any one person's TB infection, especially including suppression of the immune system by age, medications, malnutrition, or other disease processes.

#### **Program Summary:**

The Manchester Health Department has provided TB surveillance and control activities for over 50 years. The two primary elements of TB control include screening of individuals for tuberculosis infection, especially those who are at high risk of infection and/or progression to "active TB disease" and the investigation of contacts of active cases to control the spread of disease. Currently, detection of tuberculosis infection is done through a process of skin testing, questionnaires, and chest x-rays. The interpretation of test results depends on the clinical history of the client and requires medical judgement. TB skin testing is performed for the general public as needed and for all newly-arrived refugees unless there is documentation to prove prior treatment for tuberculosis infection. All patients for whom active tuberculosis is suspected are educated about isolation if needed and are tested for evidence of being contagious to others. The Community Health Nurse Supervisor and the Medical Director provide guidance for the investigations into contacts. There is a team of 4 Community Health Nurses who, amongst their other duties, facilitate the patients getting the appropriate medications and monitoring their compliance with the medications as well as for evidence of side effects of the medications. It has been proven that this "directly-observed therapy" or "DOT" is a cost-effective and vital measure for TB control worldwide. Moreover, in areas of the world in which it is not done and knowledge about TB is poor, there are higher rates of drug-resistant disease. DOT usually requires doing a home visit several times per week for up to 12 months. Most patients who only have a positive skin test and no evidence of active, contagious disease are also followed by a Community Health Nurse and encouraged to take anti-tuberculosis medications in order to prevent the future development of active disease. The TB program requires close collaboration with State Health Department officials and the assistance of the NH Public Health Lab.

#### **Activity Summary for Fiscal Year 2005:**

- 1070 TB skin tests performed & interpreted.
- 234 positive TB skin tests reported by the MHD and the State TB program required follow-up.
- 2 suspect cases of active TB disease were reported and an investigated, to later find that they were not true active cases.
- DOT was completed for 5 active TB cases found in 2004. (DOT is a minimum of 6 months each.)
- Approximately 50% of the caseload include refugees, many of whom need interpreter services in order for the nurses to perform case management.
- TB skin tests were performed on 282 of the 287 newly-arrived refugees.
- TB education was provided to Hillsborough County Jail on a regular basis for inmates on preventive therapy and to long-term care facilities.

### **Program Notes & Trends:**

Overall, the rates of TB disease have declined in the U.S., except for a rise seen during the period 1983 to 1993. (See the appendix for the related graph from the U.S. C.D.C. and more epidemiologic information.) TB resurgence during this period was attributed to the expansion of HIV infection, hospital and healthcare facility transmission of *M. tuberculosis*, multi-drug resistant TB, and increasing immigration from countries with high incidence of TB. Also, it was identified that infrastructure for TB control during this period deteriorated. The Manchester Health Department will continue to increase target testing among those at highest risk of infection as well as those at highest risk of disease progression. This includes expanding outreach efforts to persons who are born in countries with high TB prevalence, homeless individuals, incarcerated persons, and those who are immunosuppressed.

## **Community Activities**

### **Health Department Participating in Re-Writing of City's Emergency Operations Plan**

The City of Manchester is partnering with Southern New Hampshire Planning Commission (SNHPC) to re-write the City's Emergency Operations Plan (EOP). The new EOP will contain a basic plan, sixteen functional Emergency Support Functions (ESF), and several annexes. The Health Department has been designated as the lead agency for the writing and implementation of *ESF-8 Health & Medical*. Over the next several months, the Health Department will work with SNHPC to define the roles and responsibilities contained in ESF-8. Upon completion of the EOP, the Health Department will refine its policies and procedures, and work with our community partners to assure that all aspects of ESF-8 can be carried out during an emergency.

## **Disease Notes**

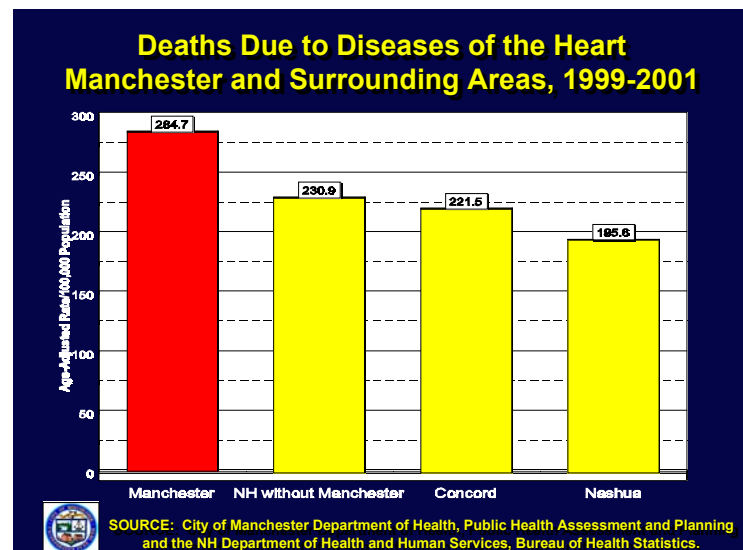
During the month of February, the Public Health Nurses investigated a total of 13 reports of infectious diseases (excluding the TB and HIV/STD work). This number also does not include the extensive investigation done into a respiratory illness outbreak at a long-term care facility. This investigation included assisting in identification of cases and in identification of control measures.

### **Heart Disease is the Leading Cause of Death Among Manchester Residents**

And of even greater concern, based on the most recent data available, is that Manchester residents are more likely to die from heart disease than their counterparts throughout the rest of New Hampshire.

Coronary heart disease (CHD) accounts for the largest proportion of heart disease. The lifetime risk for developing coronary heart disease is very high for most residents: one in two males and one of every three females aged 40 years and under will develop CHD sometime in their lifetime.

Primary prevention, specifically through lifestyle interventions that promote heart-healthy behaviors, is a major strategy to reduce the development of heart disease and stroke. Even modest changes in controlling one or more major risk factors such as hypertension, high blood cholesterol, tobacco use, diet and physical inactivity can have a large public health impact. The City of Manchester Department of Health is committed to measurably improving the burden of heart disease throughout the community. Efforts are currently underway to design a community-wide action plan towards this goal.

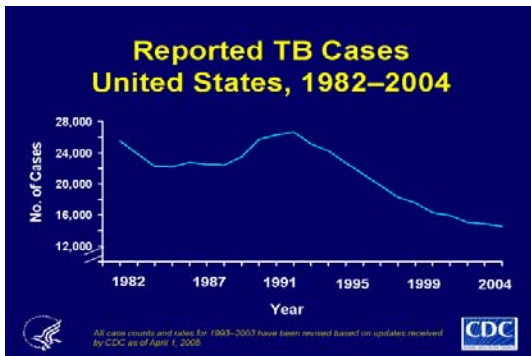


### **FOR MORE INFORMATION**

Visit our website at <http://www.manchesternh.gov/CityGov/HLT/Home.html>, or call 624-6466

## TUBERCULOSIS PREVENTION & CONTROL PROGRAM REVIEW APPENDIX

Worldwide, approximately 30% of people are infected with TB and the disease leads to the deaths of an estimated 2 million persons annually. In the U.S., there are between 10 and 15 million persons with LTBI, and slightly less than 15,000 cases per year of TB. Below are two slides from the U.S. CDC website, <http://www.cdc.gov> (downloaded March 6, 2006 specifically from <http://www.cdc.gov/nchstp/tb/pubs/slidesets/surv/surv2004/default.htm>) depicting the decline in overall case rates as alluded to previously and depicting the overall low case rate of TB in the state of New Hampshire. Hillsborough County accounts for 40-50% of the total cases from 2001-2005,



according to the NH TB program data. This may be due to various factors, including population density, poverty, and higher numbers of persons from countries with high TB prevalence.

Each year for at least the last 4 fiscal years, 900 to 1200 persons have been tested for TB by the Manchester Health Department. Of those tested, slightly more than 10% test “positive” for evidence of prior infection. The pie chart below shows some of the reasons that the 1060 persons came to the Manchester Health Department for testing in fiscal year 2005:

With worldwide travel increasing and changing immigration patterns, TB control and prevention programs across the U.S. remain a core program in public health departments. Future goals in Manchester include enhanced outreach to those at highest risk of disease and implementation of new serological testing methods which will likely replace the TB skin test in the near future as the primary screening test.

“World TB day” will be held on March 24, 2006 and is set on this date annually in recognition of the discovery by Robert Koch on March 24, 1882 of the bacillus bacterium that causes tuberculosis. This observance is dedicated to increasing awareness of the need for TB control and prevention across the globe.

